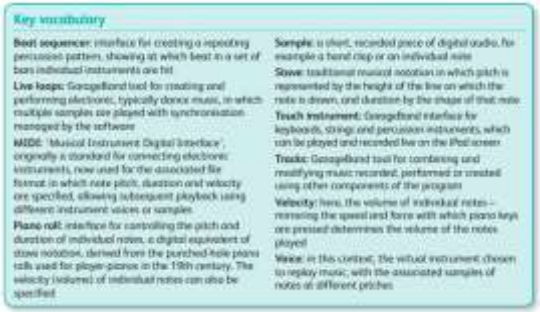
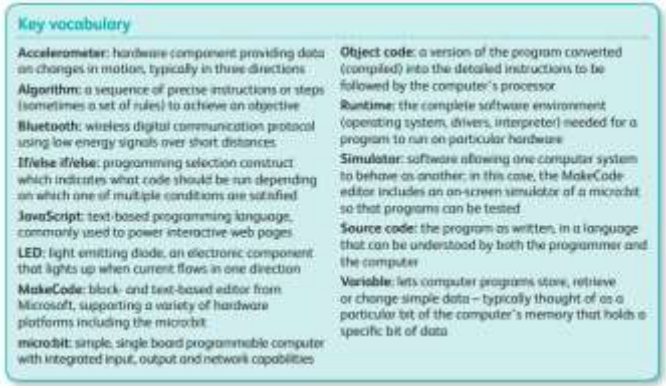
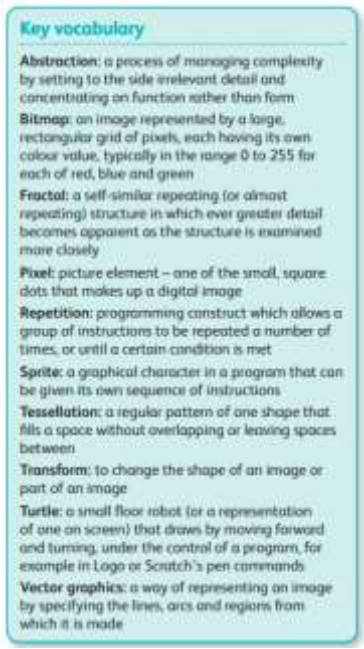
The Valley Primary School
Class 2 Computing Curriculum 2023-2024.

Autumn Term	**We are Software Developers (Autumn 1)** ***Learning Objectives:*** To play and analyse educational games. To create a game that asks a question and provides feedback. To develop the educational game to include repetition. To improve the interface of the educational game To build in additional levels or make their game increase in difficulty. To test and improve the educational game, correcting any errors.  Key vocabulary **Algorithm:** a sequence of precise instructions or steps (sometimes a set of rules) to achieve an objective **Bug:** an error or mistake in a program or algorithm, causing the computer or robot to behave in a manner that was not originally intended **Debug:** correct mistakes in a computer program or algorithm **Input:** data supplied to a computer, in this case the algorithm taken from the storyboard for the animation **Output:** information produced by a computer; in this case an animation **Program:** a sequence of instructions (or sometimes a set of rules) that can be followed by a computer **Repeat loop:** a sequence of instructions executed a fixed number of times or until some condition is met, or possibly forever **Repetition:** programming construct which allows a group of instructions to be repeated a number of times, or until a certain condition is met **Scratch:** simple, block-based programming language in which programs for characters are built by snapping together code blocks **Sequence:** placing programming instructions in order, so each one happens one after the other **Sprite:** a graphical character in a program that can be given its own sequence of instructions **Variable:** lets computer programs store, retrieve or change simple data. Typically thought of as a particular location in the computer's memory that holds a specific item of data **We are Musicians (Autumn 2)** ***Learning Objectives:*** To recall earlier work on creating a percussion loop. To experiment with the touch instruments To create a tune in piano roll view To create a piece of music using live loops To create a multi-track composition in GarageBand. To refine and perform a piece of music.  Key vocabulary **Beat sequencer:** interface for creating a repeating percussion pattern, showing at which beat in a set of bars individual instruments are hit **Live loops:** GarageBand tool for creating and performing electronic, typically dance music, in which multiple samples are played with synchronisation managed by the software **MIDI:** 'Musical Instrument Digital Interface', originally a standard for connecting electronic instruments, now used for the associated file format in which note pitch, duration and velocity are specified, allowing subsequent playback using different instrument voices or samples **Piano roll:** interface for controlling the pitch and duration of individual notes, a digital equivalent of stave notation, derived from the punched-hole piano rolls used for player-pianos in the 19th century. The velocity (volume) of individual notes can also be specified **Sample:** a short, recorded piece of digital audio, for example a hand clap or an individual note **Stave:** traditional musical notation in which pitch is represented by the height of the line on which the note is drawn, and duration by the shape of that note **Touch instrument:** GarageBand interface for keyboards, strings and percussion instruments, which can be played and recorded live on the iPad screen **Tracks:** GarageBand tool for combining and modifying music recorded, performed or created using other components of the program **Velocity:** here, the volume of individual notes – remaining the speed and force with which piano keys are pressed determines the volume of the notes played **Voice:** in this context, the virtual instrument chosen to replay music, with the associated samples of notes at different pitches
Spring Term	**We are Makers (Spring 1)** ***Learning objectives:*** To learn about the micro:bit, and how to create a program using MakeCode. To read a micro:bit program and predict what it will do. To modify a micro:bit program. To create a micro:bit program to simulate rolling two dice. To plan a micro:bit program. To code and test their own micro:bit project.  Key vocabulary **Accelerometer:** hardware component providing data on changes in motion, typically in three directions **Algorithm:** a sequence of precise instructions or steps (sometimes a set of rules) to achieve an objective **Bluetooth:** wireless digital communication protocol using low energy signals over short distances **If/else if/else:** programming selection construct which indicates what code should be run depending on which one of multiple conditions are satisfied **JavaScript:** text-based programming language, commonly used to power interactive web pages **LED:** light emitting diode, an electronic component that lights up when current flows in one direction **MakeCode:** block- and text-based editor from Microsoft, supporting a variety of hardware platforms including the microbit **microbit:** simple, single board programmable computer with integrated input, output and network capabilities **Object code:** a version of the program converted (compiled) into the detailed instructions to be followed by the computer's processor **Runtime:** the complete software environment (operating system, drivers, interpreter) needed for a program to run on particular hardware **Simulator:** software allowing one computer system to behave as another; in this case, the MakeCode editor includes an on-screen simulator of a microbit so that programs can be tested **Source code:** the program as written, in a language that can be understood by both the programmer and the computer **Variable:** lets computer programs store, retrieve or change simple data – typically thought of as a particular bit of the computer's memory that holds a specific bit of data

	We are Bloggers (Spring 2) ***Learning objectives:*** **To write a blog post.** **To comment on blog posts.** **To add images to blog posts.** **To insert audio or video from another website into a blog.** **To create a live blog.** 
Summer Term	**We are Artists. (Summer 1)** ***Learning Objectives:*** **To create simple tessellations using Inkscape.** **To create more complex tessellations using Inkscape.** **To program Islamic-style art in Scratch.** **To create a repeating pattern in Scratch.** **To use Inkscape to create art inspired by the later work of Bridget Riley.** **To create art using Inkscape inspired by the early style of Bridget Riley.** 

	Online Safety (Summer 2) ***Learning Objectives:*** **To identify how a message can hurt someone's feelings.** **To use a search engine accurately.** **To understand the term 'plagiarism' and how to avoid it.** **To create a safe online profile.** **To explain how to be a responsible digital citizen.** **To create an online safety superhero character.** **Key Vocabulary – plagiarism, digital citizen, private, safe, unsafe, profile, edit, respectful, communication, search results, website, registration, online and real life communication.**